Twenty5 Integration with SAP S/4HANA Cloud

Configuration Guide

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1 Preface

Definition

This configuration guide describes the necessary configuration steps to execute the Twenty5 Integration with SAP S/4HANA Cloud integration scenarios, delivered in the Package, to integrate Twenty5 with SAP S/4HANA Cloud using SAP Integration Suite on SAP Business Technology Platform as the integration platform.

Intended Audience

The Twenty5 Integration with SAP S/4HANA Cloud Configuration Guide is intended to be used by both technology and application consultants.

Structure

The structure of this configuration guide follows the sequence of steps required to configure and integrate Twenty5 Integration with SAP S/4HANA Cloud using SAP Integration Suite.

Additional Documentation

List of related documentation

SAP Integration Suite

SAP Process Integration

SAP Business Accelerator Hub

2 Introduction

The "Twenty5 Integration with SAP S/4HANA Cloud" package is a comprehensive integration solution designed to seamlessly transfer commercial projects from the Twenty5 application to SAP S/4HANA Cloud. Twenty5 serves as an SAP addon tool, specializing in intelligent project pricing and estimation. This integration package, implemented through Integration Flows (iflows/artifacts), facilitates the synchronization of commercial projects data from Twenty5 to SAP S/4HANA Cloud.

As organizations increasingly leverage SAP S/4HANA Cloud for its robust enterprise resource planning capabilities, the need for streamlined integration with specialized tools like Twenty5 becomes crucial. The iflow architecture ensures a smooth and reliable data transfer process, ensuring that essential project details, pricing, and estimations created within Twenty5 are accurately replicated in the SAP S/4HANA Cloud environment.

By deploying this integration solution, businesses can enhance their project management processes, leveraging the capabilities of Twenty5 for intelligent pricing and estimation, while seamlessly integrating these projects into the broader SAP S/4HANA Cloud ecosystem. This not only improves operational efficiency but also ensures data consistency and integrity across different platforms, ultimately contributing to a more synchronized and agile business environment.

3 Overview

The integration flows provided by this package facilitates the seamless transfer of Commercial Project data from Twenty5 to SAP S/4HANA Cloud.

SAP S/4HANA Cloud offers a comprehensive set of APIs, including a batch operation that enables the simultaneous execution of multiple API entities within a single API call. This batch processing approach enhances data consistency by ensuring that if any individual entity encounters an error, the entire batch operation is rolled back, preventing partial data inconsistencies.

APIs involved in the current integration process include:

Commercial Project API: SAP Business Accelerator Hub
BillRate/Condition Record API: SAP Business Accelerator Hub

1. API Entities info:
2. Project
3. Work Packages
4. Work Items
5. Demands
6. Resource Demands
7. Resource Demands Distribution
8. Project Roles
9. Sales Order Header
10. Sales Order Item
11. Sales Order Partner
12. Sales Order Item Work Package
13. Sales Order Item Billing Plan
14. Condition Records

15. Condition Record Validity

Users can refer to the provided API Business Hub links for detailed information on each API entity involved in the integration process.

This integration process can be customized. The customizations can be done based on your business requirements. Adjustments can be made at different components, including:
- Adjustment to the integration flow externalized parameters,
- Adjustments to the mapping fields to reflect the possible parameters,
- Adjustments to the API entities involved in the process

3.1 Prerequisites

Access required
- SAP S/4HANA Cloud Tenant Details
- SAP Integration Suite Tenant Details
- Twenty5 Application Details

Authorization required:
- SAP S/4HANA Cloud Tenant Details
    - Appropriate authorizations for the technical user that will be used to connect to the SAP S/4HANA Cloud Tenant.
- SAP Integration Suite Tenant Details.
    - AuthGroup.IntegrationDeveloper
- Twenty5 Application
    - Appropriate authorization to configure the SAP IS (Cloud Integration) iflow endpoints and security key details

4 Package Installation Process

The figure 4.1 below shows the system landscape that is used for the Integration Scenarios for Twenty5 Integration with SAP S/4HANA Cloud

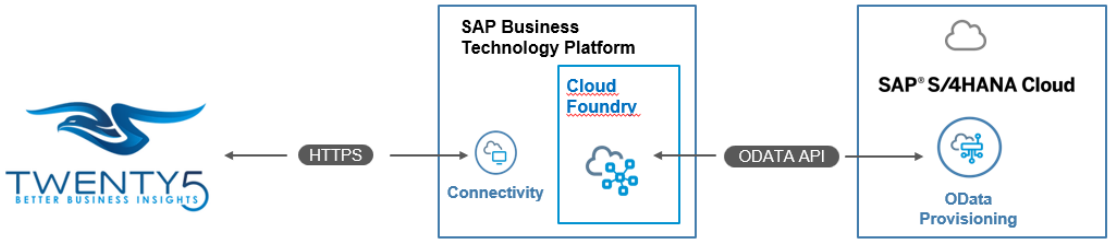

Figure 4.1: System Landscape

4.1 Installing the IS/PI Integration Package

From your SAP IS (Cloud Integration) Tenant Instance

1. Go to the Discover section 
2. Search for Twenty5 Integration with SAP S/4HANA Cloud
3. You should now see the Package integration processes

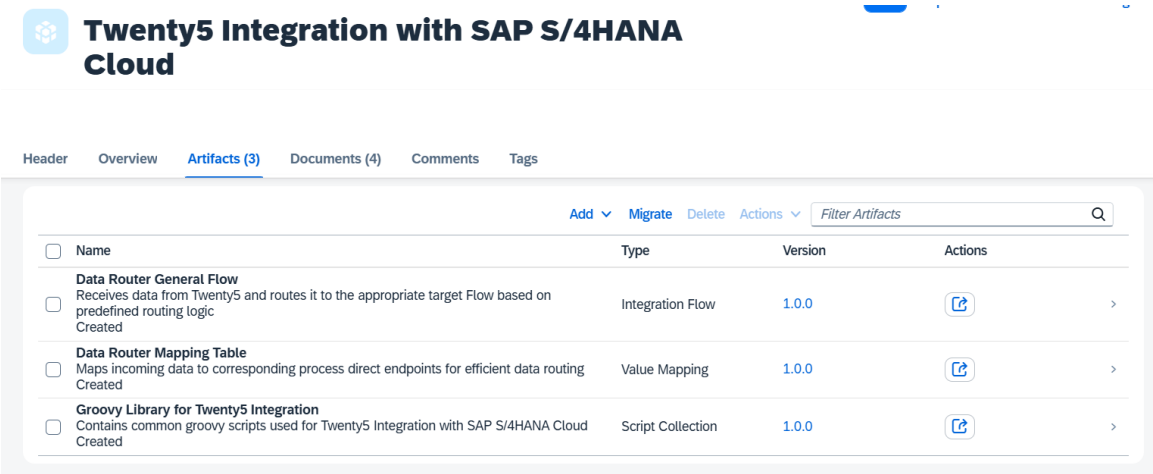

Figure 4.2 Integration Package

5 Configuring and Deploying Integration Scenario

The integration scenarios to be configured are as follows:

5.1 Configuration in SAP S/4HANA Cloud

This integration package is configured using basic Authentication toward SAP S/4HANA Cloud. A Technical Communication User is needed to call OData services in SAP S/4HANA Cloud from the Integration Suite. Communication Users in SAP S/4HANA Cloud are used for inbound communication and for processing messages in the system. The created technical user needs to have all the appropriate authorization to access and perform the operations of OData API entities.

5.2 Configuration in Twenty5

Twenty5 establishes a connection with the integration flow through the HTTP endpoint. Configure the HTTP endpoint of the Integration in the Twenty5 Outbound Communication arrangement along with the service key details of Integration Suite for the authorization.

5.3 Configuration in SAP Integration Suite

This section outlines the configuration steps for the artifacts within the integration package.

Integration flow:

1. Data Router General Flow

Script Collection:

2. Groovy Library for Twenty5 Integration

Value Mapping:

3. Data Router Mapping Table

5.3.1 IFLOW: Data Router General Flow

- This iflow receives and routes the data to the appropriate target iflow based on the pre-defined routing logic. The routing logic involves looking up the endpoint maintained in the value mapping artifact “Data Router Mapping Table” and utilizes the Process Direct adapter to send the message to the designated target iflow.

5.3.1.1 Configuration

Steps to configure the integration flow:

1. Open the integration flow “Data Router General Flow”
2. Click on Configure
3. Configure “Sender”. Select the User Role created for this connection.

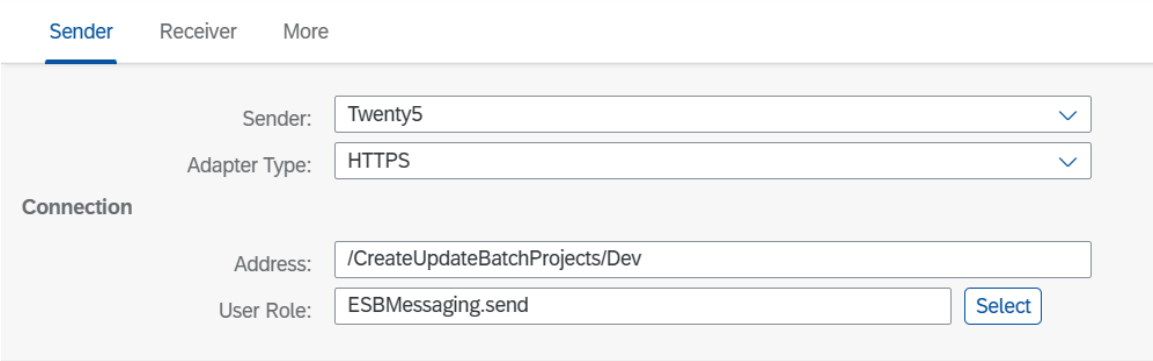

Figure 5.3.1 – Integration Flow Sender

5.3.2 Script Collection: Groovy Library for Twenty5 Integration

In addition to the integration flow, a script collection has been curated to centralize and organize the scripts utilized for this integration in a single repository.

1. The script titled "ExtractAndFormatExceptionMessage.groovy" has been created to address and manage exceptions that may arise during the execution of integration flows.

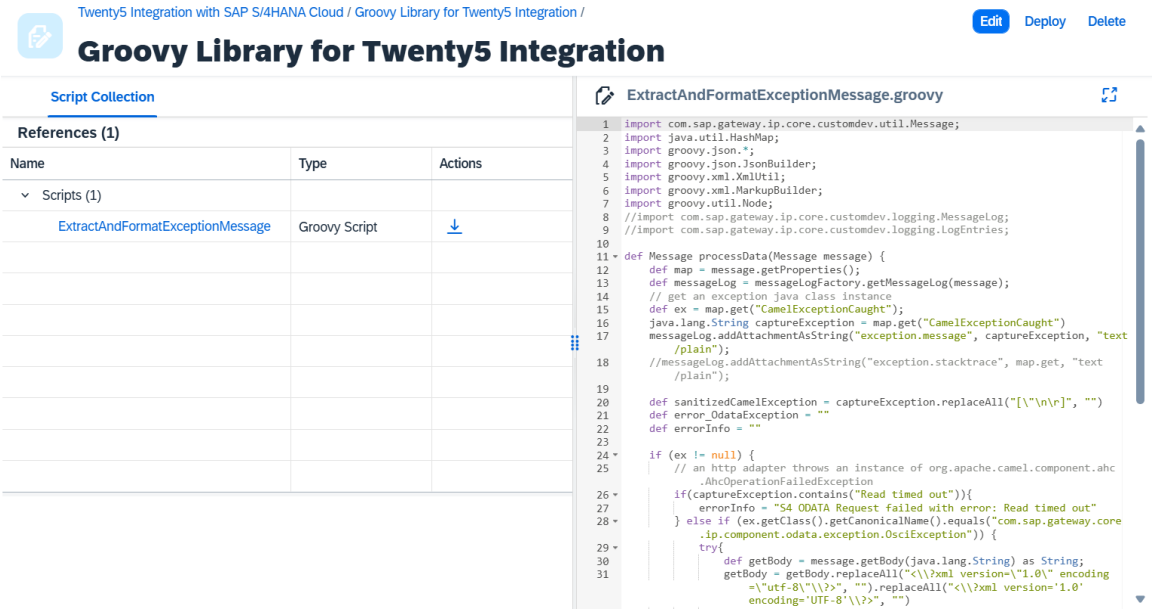

Figure 5.3.4 Script Collection

2. Deploy the script collection.

5.3.3 Value Mapping: Data Router Mapping Table

This value mapping contains the target iflow's ProcessDirect endpoints.

The DataRouter Flow performs a lookup to identify the appropriate target iflow based on the input HTTP resource path, enabling dynamic routing to the correct endpoint.

- As the number of iflows increases, the corresponding endpoints need to be added to this value mapping to ensure messages from the Data Router Flow are correctly routed to the receiver ProcessDirect iflow.

5.4 Monitoring in SAP IS

Once the integration flow and the script collection deployed by following the above sections and here to verify the deployment status.

Steps to verify the deployment of artifacts is success in IS (Cloud Integration):

1. In your SAP Cloud Integration tenant go to Monitor.
2. In Manage Integration Content click on All.
3. Under the Integration Content, search the integration flow and its associated artifact.
4. Verify the status of the deployment of the integration flow and script collection.
5. If the status shows “Started” then the artifiacts are successfully deployed and running.

5.5 Executing and Testing

Follow these steps to execute and test the integration flows:

1. After the successful deployment of the integration flows, initiate the testing process by calling the Integration Flows (iflows) with the respective request messages. This can be done by using tools such as Postman or any third-party HTTP client.
2. Open Postman application and provide the endpoint, authentication info and the input request message, then send the message.
3. Verify the execution status in the response received. A successful execution will be indicated, and the corresponding response from SAP S/4HANA Cloud should be replicated.

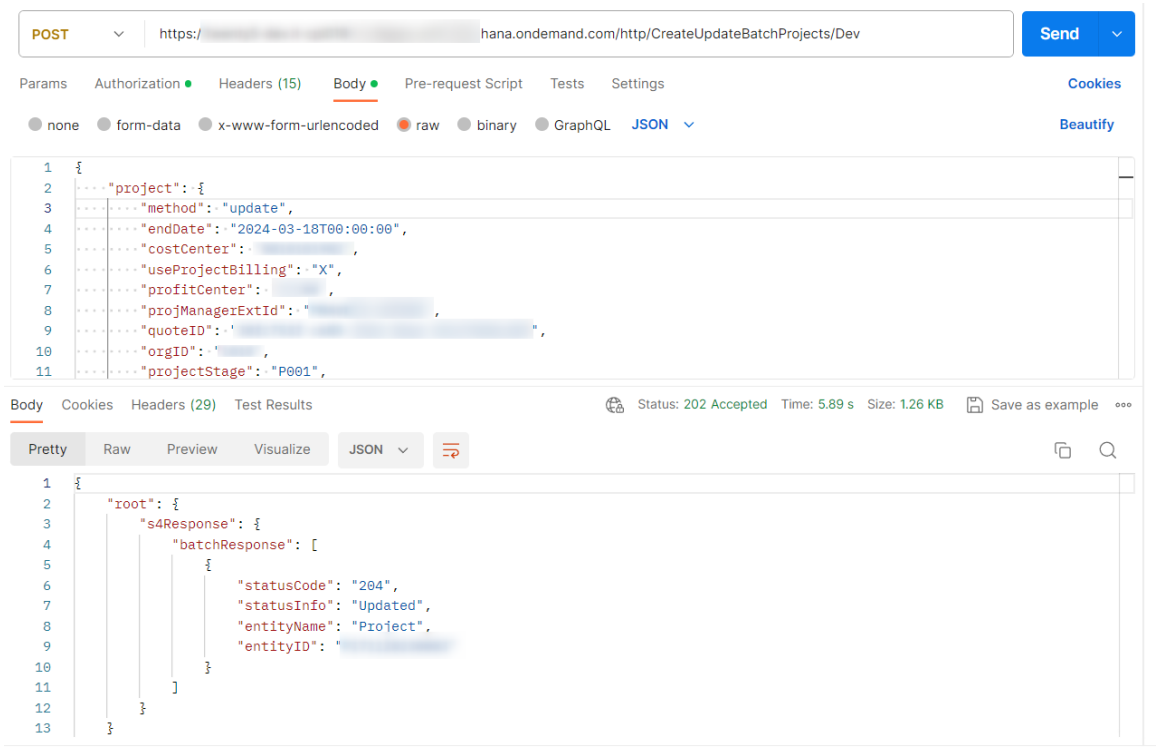

Figure 5.5 iflow test result

6 Support

Contact us at "**support@twenty5.com**" for the implementation guide for project creation flows. Feel free to raise any questions or suggestions to help us serve you better.